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IS 3171-2 (2006): Internal Combustion Engines - Fuel Injection Nozzle Holders, Part 2: Screw-in Injection Nozzle Holders, Types 20, 21, 21.1 and 27 for Pintle Nozzle Size 'S', Type B [TED 2: Automotive Primemovers]

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भारतीय मानक

अंतर्दाही इंजन — ईंधन अंतःक्षेपण नोज़ल धारक

भाग 2 चूड़ी चढ़े अंतःक्षेपण नोज़ल धारक टाइप 20, 21, 21.1 तथा 27 पिंटल नोज़ल साईज 'एस', टाइप बी के लिए

(पहला पुनरीक्षण)

Indian Standard

INTERNAL COMBUSTION ENGINES — FUEL INJECTION NOZZLE HOLDERS

PART 2 SCREW-IN INJECTION NOZZLE HOLDERS TYPES 20, 21, 21.1 AND 27 FOR PINTLE NOZZLE SIZE 'S', TYPE B

(First Revision)

ICS 43.060.40

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

February 2006 **Price Group 3**

Automotive Primemovers, Transmission and Steering Systems and Internal Combustion Engines Sectional Committee, TED 2

NATIONAL FOREWORD

This Indian Standard (Part 2) (First Revision) which is identical with ISO 7026 : 1997 Diesel engines — Screw-in injection nozzle holders, types 20, 21, 21.1 and 27 for pintle nozzle size “S”, type “B” issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Automotive Primemovers, Transmission and Steering Systems and Internal Combustion Engines Sectional Committee and approval of the Transport Engineering Division Council.

This standard was first published in 1997. The first revision of the standard was taken due to revision to base standards. In this revision a new nozzle holder type is included.

The Sectional Committee decided to align the Indian Standards with the corresponding International Standards wherever feasible and wherever the domestic considerations were not so intense as to have standards different from the ISO Standards. This decision was taken with a view to upgrade the quality of the products in line with the International Standards.

The text of the ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

The standard is one in the series of standards on fuel injectors. Other standards published in the series are:

IS No.	*Title*
IS 3171 (Part 1) : 1996/ ISO 2699 : 1994	Internal combustion engines — Fuel injection nozzle holders : Part 1 Flange mounted fuel injectors size ‘S’, Types 2, 3, 4, 5 and 6 (*first revision*)
IS 3171 (Part 3) : 1996/ ISO 7030 : 1987	Internal combustion engines — Fuel injection nozzle holders: Part 3 Screw mounted injection nozzle holders, Types 12, 13, 14, 15, 16, 17, 18 and 19

For BIS Certification Marking, details are given in National Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

INTERNAL COMBUSTION ENGINES — FUEL INJECTION NOZZLE HOLDERS

PART 2 SCREW-IN INJECTION NOZZLE HOLDERS TYPES 20, 21, 21.1 AND 27 FOR PINTLE NOZZLE SIZE 'S', TYPE B

(First Revision)

1 Scope

This International Standard specifies dimensional requirements for the mounting of injection nozzle holders in compression-ignition (diesel) engines.

The location of the fuel inlet and leak-off connections are not defined since they vary according to the particular application.

This International Standard applies to screw-in injection nozzle holders of types 20, 21, 21.1 and 27.

These nozzle holders are used with the pintle nozzle size "S", type "B", specified in ISO 2697 1).

2 Dimensions and tolerances

2.1 Nozzle holders without heat shield

2.1.1 Nozzle holder, type 20, "long"

Injection nozzle holders of type 20 with nozzle protrusion of 1 mm ± 0,2 mm shall be as shown in figure 1.

2.1.2 Nozzle holder, types 21 and 21.1, "short"

Injection nozzle holders of type 21 and type 21.1 with nozzle protrusion of 13 mm ± 0,2 mm shall be as shown in figure 2.

2.2 Nozzle holder with integral heat shield, type 27

Injection nozzle holders of type 27 with heat shield protrusion of 14,1 mm ± 0,2 mm shall be as shown in figure 3.

3 Other specifications

Dimensions and requirements not given in this International Standard are left to the discretion of the manufacturer.

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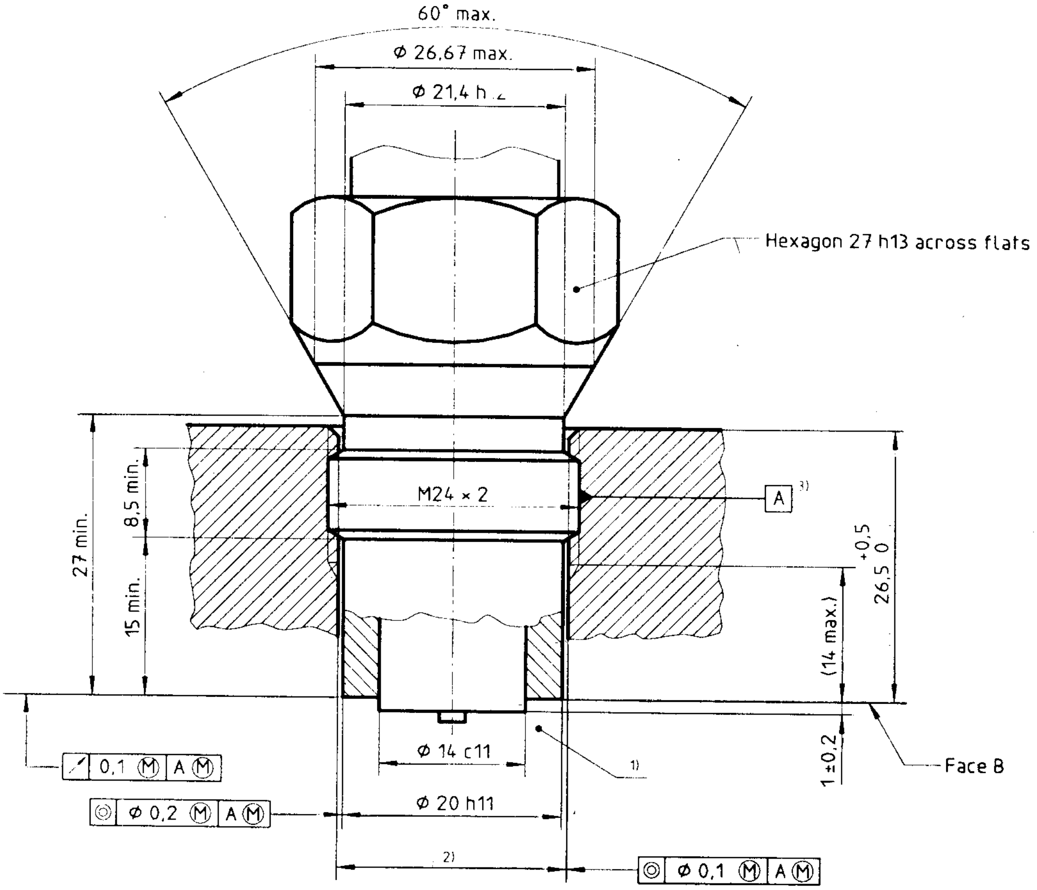
1) ISO 2697:1974, *Road vehicles — Fuels injection nozzles — Size "S"*.

Dimensions in millimetres



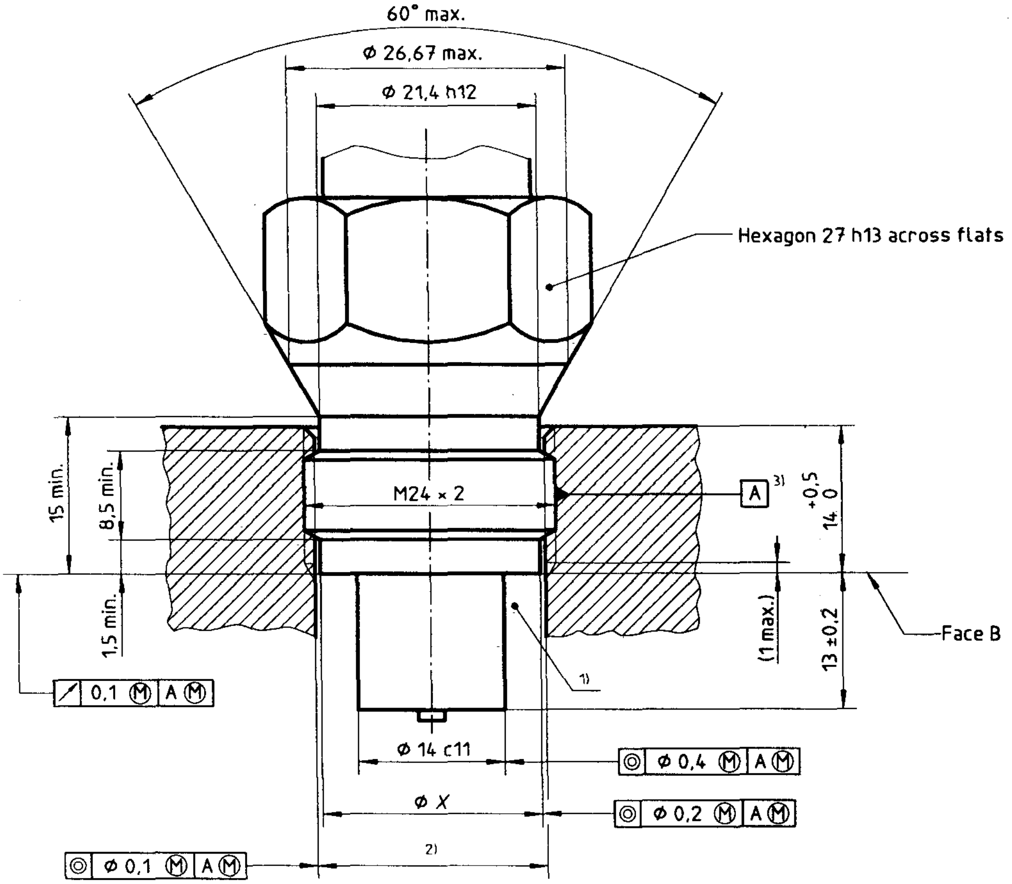
1) The manufacturer shall design an appropriate heat shield or washer such that the distance of face B from the upper face of the cylinder head is achieved.

2) The determination of this diameter in the cylinder head is left to the manufacturer's choice. For this purpose, the maximum value for the nozzle retaining nut which is given as a result of the maximum material principle Ⓜ and the maximum tolerance value of the cylinder head hole shall be taken into account. The clearance shall be kept to a minimum to avoid unnecessary heating of the nozzle.

3) Datum feature for the datum letter A is the pitch diameter; this refers to the nozzle holder thread as well as to the cylinder head thread.

Figure 1 — Screw-in injection nozzle holder, type 20

Dimensions in millimetres



Type	*X*
21	21 h11
21.1	20 h11

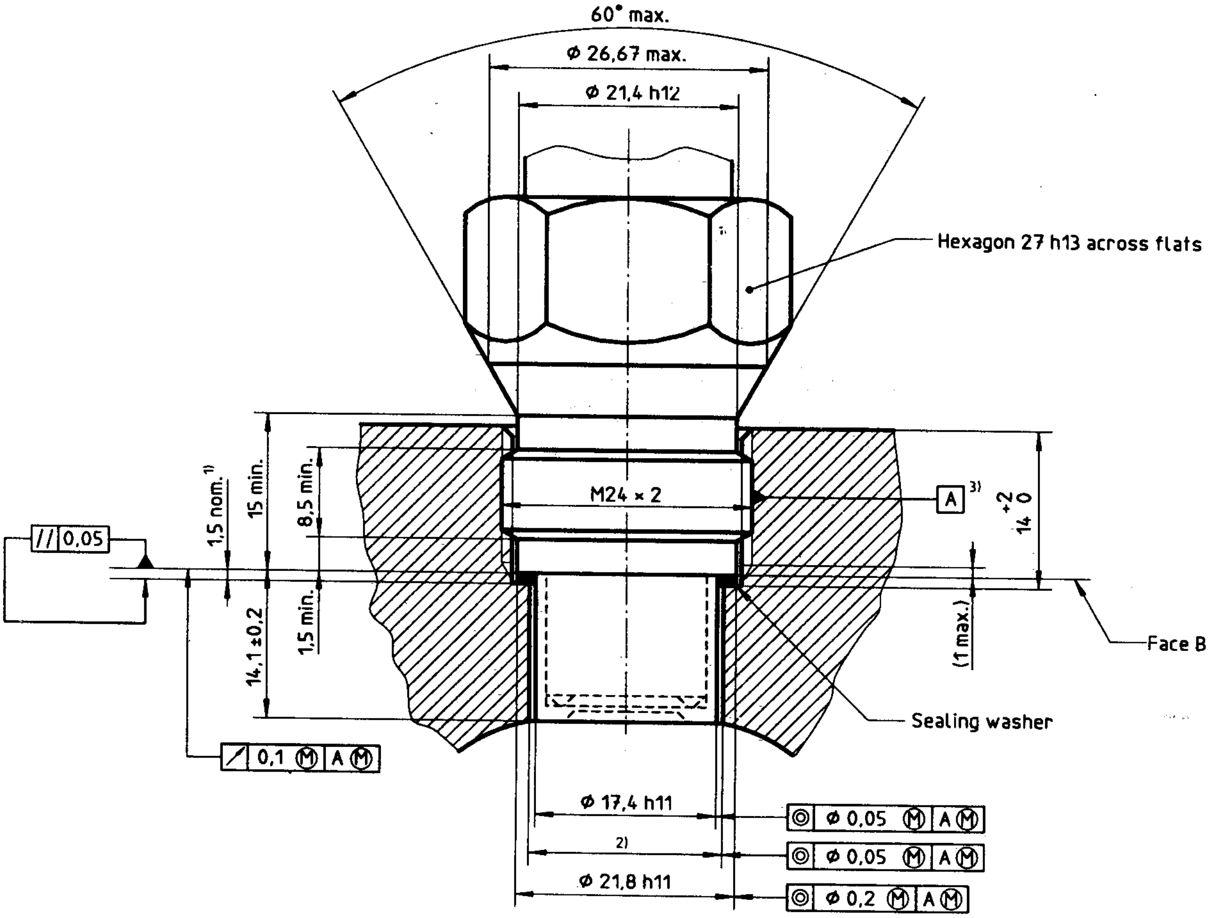
1) The manufacturer shall design an appropriate heat shield or washer such that the distance of face B from the upper face of the cylinder head is achieved.

2) The determination of this diameter in the cylinder head is left to the manufacturer's choice. For this purpose, the maximum value for the nozzle retaining nut which is given as a result of the maximum material principle Ⓜ and the maximum tolerance value of the cylinder head hole shall be taken into account. The clearance shall be kept to a minimum to avoid unnecessary heating of the nozzle.

3) Datum feature for the datum letter A is the pitch diameter; this refers to the nozzle holder thread as well as to the cylinder head thread.

Figure 2 — Screw-in injection nozzle holder, types 21 and 21.1

Dimensions in millimetres



1) With commercial tolerances (before compression).

2) The determination of this diameter in the cylinder head is left to the manufacturer's choice. For this purpose, the maximum value for the heat shield which is given as a result of the maximum material principle Ⓜ and the maximum tolerance value of the cylinder head hole shall be taken into account. The clearance shall be kept to a minimum to avoid unnecessary heating of the nozzle.

3) Datum feature for the datum letter A is the pitch diameter; this refers to the nozzle holder thread as well as to the cylinder head thread.

Figure 3 — Screw-in injection nozzle holder, type 27

NATIONAL ANNEX A

(*National Foreword*)

A-1 BIS CERTIFICATION MARKING

A-1.1 The product may also be marked with the Standard Mark.

A-1.2 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

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Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

This Indian Standard has been developed from Doc : No. TED 2 (424).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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